Remarks

Claims 11-16 and 19-21 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable based on Yamaki.

The presently claimed invention is patentably distinguishable from Yamaki at least based on the high solids content claimed

PRELIMINARILY, PURSUANT TO 37 CFR 1.104 (d)(2) APPLICANT RESPECTFULLY REQUESTS AN AFFIDAVIT SUPPORTING THE EXAMINER'S STATEMENT THAT "the claimed solids content" is "within routine experimentation and/or optimization of the teachings of Yamaki" (PAGE 3, 1st full paragraph) in view of the fact that there is no expectation this is possible based on the knowledge in the art that (1) special steps are required to achieve such a high solids content and (2) without special steps, increasing the solid's content undesirably increases viscosity. Both points (1) and (2) are further discussed below.

(1) US Pub. No. 2002/0011177 A1 (Yamamori et al.) states at page 1, paragraph 4, that it is an object of the invention to provide a high-solid antifouling coating. At page 1, paragraph 18, it is indicated that a composition having a VOC of not more than 400 g/L is to be obtained. At page 2, paragraph 20, it is explained what is necessary, in terms of the acrylic resin, to obtain a high solids composition that is suitable as a coating composition. At page 3, in paragraph 29, it is explained how such an acrylic resin can be prepared. This clearly illustrates that special steps are required to achieve a high solids content. No such special steps are disclosed in Yamaki.

(2) It is known that increasing a composition's solids content results in a "virtually linear" increase of viscosity. D. Stoye and W. Freitag, "Resins For

Coatings", p. 33, section 4.1.1, 2nd paragraph, last sentence, and p. 285, Fig. 8.5 ("Stoye/Freitag"). (Pages 28, 29, 33, 34 and 285 of the reference enclosed herewith.)

It is also known that it is undesirable to increase the viscosity of the coating composition. See, for example, Stoye/Freitag, p. 33, section 4.1.1, 2nd paragraph, last sentence. As a result, special methods are used when preparing a composition with increased solids content. Stoye/Freitag, p. 34, section 4.1.1, 1st paragraph. Accordingly, the knowledge in the art teaches away from the Examiner's contention that increasing the solids content of Yamaki's composition is "within routine experimentation and/or optimization of the teachings of Yamaki". The Office Action, page 3, 1st full paragraph.

Further, the Examiner contends that the amount of solvent in (A) "combined with the amount of (A)...is not sufficient to result in a final composition that is outside the claimed weight solids range., and that (B) and (C) "are not specifically taught to be used in a solvent system," indicating solvent is optional. The paragraph bridging pages 2 and 3 of the Action. Neither of these contentions is understood, because (A), (B) and (D) are already in solvent as a result of the manufacturing processes.

Specifically, Yamaki relates to compositions comprising components A, B, C, and D (which was not referenced in the Action. As recognised by the Examiner, component A, which is a silica-dispersed oligomer solution of an organosilane, has a low solids content. This is confirmed by Preparation examples A-1 and A-2 where silica-dispersed oligomer solutions of organosilane are obtained having a solids content of 36%.

Yamaki explains in column 9, lines 40-45, that the acrylic resin (B) can be obtained by a known synthesis method, for example, radical polymerisation, anion polymerisation, or cation polymerisation. These polymerisations can be performed by suspension polymerisation, emulsion polymerisation or solution polymerisation. An

example is given, at column 9, lines 46-52, of a method for radical polymerisation by solution polymerisation.

Suspension polymerisation, emulsion polymerisation, and solution polymerisation all require a liquid in which the polymerisation takes place (it is not considered necessary to provide references on such well known processes, but they can be supplied if requested). Hence, these polymerisation processes will result in an acrylic resin (B) having a low solids content. This is confirmed by Preparation examples B-1 to B-4, where 40% toluene solutions of acrylic resins are obtained.

The polyorganosiloxane (D) can be obtained, for example, by hydrolysis, with plenty of water in a known method, see column 11, lines 40-46. Though the description does not elaborate on such methods, an example of a preparation method can be found in Preparation Example D-1 in column 20. In this preparation example, the hydrolysis of silanes with plenty of water is performed in a mixture comprising acetone and toluene. The result is a 60% toluene solution of a polyorganosiloxane.

Hence, when prepared according to the methods suggested by Yamaki, not only component A, but also components B and D have a low solids content. Consequently, a mixture of A, B, C and D prepared according to the teaching of Yamaki necessarily has a low solids content. This is confirmed by the examples. According to column 13, lines 32-33, such a composition can be even further diluted, which is performed in the examples (see column 21, lines 28-33).

In accordance with the above discussion, Yamaki provides absolutely no basis for the skilled artisan to prepare a coating composition with the claimed high solids content of more than 70% by weight and, thus, the claimed invention is not obvious based on Yamaki.

In summary, a prima facie case of obviousness has not been established because Yamaki does not suggest it would be desirable to modify its composition to contain more than 70% by weight solids, as claimed; there is no reasonable expectation that Yamaki's composition could be made to contain more than 70% by weight solids; and Yamaki does not teach or suggest a composition containing more than 70% by weight solids. Withdrawal of the rejection is requested.

Claims 11-21 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable based on Serial No. 09/888,696. It is the Examiner's position that the alkoxysilyl acrylic polymer of 09/888,696 "embraces" the presently claimed glycidyl-functional acrylic polymer. This rejection is traversed.

The Federal Circuit has distinguished double patenting from the doctrine of "domination," which occurs when a broad claim of the first patent reads on a narrow claim of a second patent. This distinction was discussed in *In re Kaplan*:

"By domination we refer, in accordance with established patent law terminology, to that phenomenon, which grows out of the fact that patents have claims, whereunder one patent has a broad or "generic" claim which "reads on" an invention defined by a narrower or more specific claim in another patent, the former "dominating" the latter because the more narrowly claimed invention cannot be practiced without infringing the broader claim. To use the words of which the Board seemed to be enamored, the broader claim "embraces" or "encompasses" the subject matter defined by the narrower claim."

In re Kaplan, 229 USPQ 678 (Fed. Cir. 1986) at 681. *See also* M.P.E.P. § 804.

Further, as the *Kaplan* court noted:

"One of the simplest, clearest, soundest and most essential principles of

patent law, is that a later invention may be validly patented, altho [sic] dominated by an earlier patent, whether to the same or a different inventor."
229 USPQ at 682.

In accordance with the above discussion, withdrawal of this rejection is also requested.

Respectfully submitted,

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Enclosure: D. Stoye and W. Freitag, "Resins For Coatings", pages 28, 29, 33, 34 and 285